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ABSTRACT

Fifteen English-speaking and fifteen French-speaking preschool children were each videotaped during two play sessions, one with a native and one with a non-native peer. Length of verbal utterances toward the non-native listener was significantly lower than toward the native listener, supporting the notion that native speakers adapt the amount of verbal behavior to their listeners. The adapatation was quantitative rather than qualitative, possibly because the non-native listeners were somewhat fluent in the school language, or perhaps because the speech in question was play speech to begin with. (JB)

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Preschoolers Verbal and Non-Verbal Social Behaviour to Native and Non-Native Listeners

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I'd like to talk today about a project on interethnic interaction in pre-school children. I'll focus specifically on the adjustments in verbal and non-verbal behaviour made by majority-group, native speakers to non-native listeners. This data is part of a larger project on interethnic interaction in children which we are carrying out in Montreal.

Our interest in the issue of speech adjustments to non-native listeners comes from two sources. First, as developmental psychologists we are interested in whether children adapt the form of their speech to non-native listeners, and whether the tendency to adapt is greater for older as compared with younger pre-schoolers. It is well known from studies such as those by Shatz and Gelman (1973), Gleason, (1973), and Sachs and Devin (1976) that children as young as 4-years-old adjust their speech to younger children by simplifying it, making it more redundant and using more attention-getting devices. These findings suggest that even at the preschool age children are very capable communicators, sensitive to their perception of the social and communicative demands of the situation.

Though it is clear from these studies that young children <u>can</u> modulate their speech, it is less well known to what cues in the listener the child is responding. A younger listener differs in cognitive, attentional, physical and other age-related characteristics. We are interested in whether the preschool child adapts to purely linguistic as opposed to age-related cues. For these reasons we used as listeners children who were less competent linguistically but not cognitively, i.e., non-native listeners matched in chronological and mental age with native-speaking peers. Elise Masur (1978) found that 4-year-olds adapted their MLU to the linguistic competence (MLU) and responsivity of two-year-old listeners. However, Garvey and Bendebba (1974) found that the MLU of preschool speakers did not correlate with that of their partners, though the number of utterances did. Pinard and Genessee

(1978) also focused adjustment in the number of appositions and clarifications made by 3 to 6-year-olds speaking to adult listeners who varied in fluency. However, the speakers MLU did not vary significantly. Similarly, Snow and Hofnagel-Höhle (1979) did not find adaptation of MLU by Dutch kindergarten children speaking to non-native listeners but only at the primary grades and older. Therefore it remains to be established whether and under what circumstances children adapt their speech to children of the same age and cognitive skill but differing in linguistic fluency.

Another impetus for this research came from studies of foreigner talk, the incorporation of simplifications, redundancy and even ungrammatical foreign-style forms by native speakers when talking to non-native listeners. We are studying simplifications and redundancies rather than the mirroring of foreigners' mistakes, because such mistakes have not invariably been found, varying perhaps, according to Snow, van Eeden and Muysken (in press) with status, length of conversation, and familiarity of the speaker with foreigners. We are interested in whether such adaptation might possibly serve a useful purpose in terms of teaching the listener the language in peer-group settings. This hypothesis has been put forth by others such as Katz (1977) and Chaudron (1980) studying foreigner talk.

But apart from speech adjustments, we were also interested in examining whether children adjusted other aspects of their behaviour in interethnic situations. In keeping with the view that language's primary function is communication, we felt that other non-verbal aspects of behaviour are also communicative and would be interesting to relate back to concomitant adjustments in the forms of language used by the child. That is, we felt that the non-verbal behaviour and the amount of speech as well as its quality, would give us a fuller understanding of the child's awareness of the dimensions of the interethnic situation.

In summary, in beginning this study we hypothesized that sociolinguistic adaptation to a non-native peer listener would manifest itself in a reduction of

verbal but not of non-verbal behaviour. We also hypothesized that utterances would be shorter, less complex and more redundant. If we found these changes, the final test of whether the speaker was indeed responding to the linguistic competence of the listener would be whether the degree of adaptation varied with the linguistic fluency of the non-native listener.

However, we were aware that if we found a reduction in non-verbal as well as in verbal social behaviour, this would suggest reduced motivation to interact with the non-native peer, perhaps stemming from the child's awareness of difference in ethnic background and linguistic fluency, but not likely accompanied by speech adjustments intended to facilitate communication.

Method

Design & Subjects

In our study, the native speakers were 30 preschool children attending daycare full-time. They ranged in age from 36 to 68 months, with a mean age of 54 months. Half were English-speaking and half French-speaking children, attending daycare centres where the teachers and majority of their peers spoke the same language. Each child was videotaped during two 20-minute play sessions, one with a native peer and one with a non-native peer from the same daycare centre. Non-native peers were French-speaking or English-speaking children attending a daycare centre where the majority spoke a different language, either English or French. Native and non-native peer listeners were matched as closely as possible in age, sex and IQ, to each other and to the speaker. Non-native peers were typically not fluent in the school language as compared with their native classmates on standard measures of receptive vocabulary (Peabody Picture Vocabulary Test), receptive grammar (Carrow Test of Auditory Comprehension of Language), verbal fluency (ITPA verbal expression subtest), and MLU in the school language. The differences in fluency between native and non-native listeners are shown in Table 1.

Procedure

In the sessions pairs of children played with a Fisher-Price schoolhouse

set or a Fisher-Price airport set in a small separate room at the centre. An adult was present but did not interact with the children unless called upon by them. Native and non-native listener sessions occurred in counter-balanced order.

Each one-minute interval of the videotape was scored for the frequency of verbal and non-verbal social behaviours. These included attention-seeking, question-asking, leading and following, and the expression of affection and hostility. The first three categories were also scored as successful or unsuccessful. Each minute was also rated in terms of the predominant language used by each child (own, other or none), and the affective tone (positive, neutral, or negative) of the interaction. In addition, the speech by each child to the other was transcribed and the following measures derived for the native speakers according to the criteria of Shatz and Gelman (1973) and Pinard and Genessee (1973): the number of utterances, the MLU, the proportion of utterances that were longer than four words, the proportion of repetitions and clarifications, and the proportion of subordinate constructions.

Reliability of coding of social behaviours, transcribing and scoring of language were assessed by an independent observer coding, transcribing and scoring a subset of the sessions. Percent agreement ranged from 67 to 100% across categories and averaged about 80%. Scores for the social behaviours were summed over the 20 minutes of each session.

Results

Analyses of variance with factors sex, age (younger, older), and condition (native and non-native peer) were performed on each speaker's total frequency of social behaviours during each session, on the proportion of those behaviours which were verbal, and on the predominant affective tone of the interaction. As summarized in Table 2 of your handout, there was some tendency for the speakers to adapt their total frequency of social behaviours, with 71.5 behaviours with

native partners vs. 57.8 behaviours with non-native partners. However, this difference did not reach conventional levels of significance. Further analyses revealed that the decrease in total social behaviours was confined almost exclusively to the verbal behaviours, with the proportion of behaviours which were verbal dropping significantly from .50 to .42, $p < .05$. That is verbal behaviours dropped greatly from a mean of 41.1 to 30.5, non-verbal behaviours hardly at all, from 30.4 to 27.3 for native vs. non-native listeners. There was no significant difference in affective tone.

These results support our conclusion that native speakers adapted the amount of verbal behaviour to their listeners. An example of this type of adaptation comes from the tape of a pair of 4-year-olds. In the native-listener condition the speaker held out a toy man and said, "Here. Take the man," whereas in the non-native condition he was more often heard to say just "Here," as he held out a similar toy. This drop in verbal behaviour associated with the lack of significant difference in affective tone or amount of non-verbal behaviour suggests that the speakers were motivated to interact with the non-native peers but because of the peer's lack of fluency in the school language reduced their verbal output.

Our next step was to examine the speech variables to look at qualitative adaptations. These results are very preliminary, consisting of examination of the means and exploratory t-tests. However, it appears that little if any adaptation in syntactic complexity or redundancy occurred. As shown in Table 2 there is a suggestion that the number of utterances is reduced from 91 to 71 with non-native listeners, consistent with our finding of a reduction in verbal social behaviour. However, the changes in MLU, proportion repetition-clarification, proportion long utterances and proportion subordinate constructions did not even approach significance.

These results are not exciting, but are not inconsistent with other work. At the beginning I mentioned several studies that found no significant change in

MLU as a function of listener's MLU at this age. Garvey and Bendebba (1974) did find a significant drop in number of utterances as we tended to. And, as in their study, the MLU of our speakers correlated with speaker's age, $r(28) = .40$ $p < .05$. Why did we not find significant simplification of speech to non-native peers, when others such as Masur (1978) did? Several possibilities come to mind. The first from the fact that the children spoke to age mates. It occurred to us that only the older speakers might be capable of adapting but that the older non-native listeners might be fluent enough to elicit little adaptation. However, when we examined the relationship between non-native listener's age and fluency in the school language, older children were not significantly more fluent than younger. The correlation between non-native listeners age and MLU in the school language was only .27, n.s., and between their age and vocabulary relative to peers was essentially zero, $r(28) = -.05$, n.s. A similar possibility is that all our non-native listeners were too fluent in the school language to elicit adaptation. Despite great differences on fluency as measured by standardized tests of vocabulary and grammar, non-native and native listeners differed little in MLU in the sessions (see Table 1), with 3.0 for the non-native listeners vs. 3.8 for the native listeners. To assess the possibility that the majority of non-native listeners were too fluent to elicit adaptation, we are examining the relationship between the amount of adaptation by the speaker and the fluency of the non-native listeners. I'm sorry I don't have those results yet.

Another possible reason for the adaptation in amount but not in quality of verbal utterances comes from a closer comparison of this and the few other studies of speech adjustment to linguistic characteristics of the listener. The study which obtained the clearest adaptation of MLU (Masur, 1978) involved a task in which the speaker was instructed to communicate specific information to the listener, not just how a toy worked as in Shatz & Gelman(1973) but how to play a particular game with that toy. Studies where there was failure to adapt MLU (Garvey & Bendebba, 1974; Pinard & Genessee, 1978), including the present study

were less structured, free-play situations. It is possible that only when the situation requires communication of rather lengthy or complex subject matter is there need for simplifying in order to communicate with non-fluent listeners. Speech in play may need little adaptation. It is also informative that Masur(1978) found adaptation only during the first 10 speaker utterances of this structured task. Her total utterance data suggested that once the children engaged in reciprocal interaction (i.e., in free-play) speakers adjusted their MLU not to the expressive MLU of their listener but to the behavioural responsiveness of their listener, likely interpreting responsiveness as evidence of understanding or "going along with" the speaker in play. If this interpretation is correct, then we would expect a relationship in our study between the speakers overall MLU and the social responsiveness of listeners, whether non-native or native. In social play as opposed to a task oriented situation, the speaker may be more concerned with the listeners social response than with their linguistic level. Our children may have merely decreased their output of verbal social behaviour in response to the reduced output of their non-fluent partner, but based the complexity of that output on the social responsiveness of the partner. We are continuing to examine these possibilities.

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Preschoolers Adjustments in Verbal and Non-Verbal Behavior to Native and Non-Native Listeners

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TABLE 1

Linguistic Level of Native & Non-Native Listeners in the Speaker's Language

	Non-Native Listener mean	(s.d)	Native Listener mean	(s.d)
Receptive Vocabulary	65.3	(17.1)	95.4	(13.4)
Receptive Grammar	39.3	(29.9)	70.6	(9.9)
Expressive Fluency	31.6	(8.0)	47.6	(11.2)
MLU	3.0	(1.5)	3.8	(1.3)

TABLE 2

Mean Scores in Behavior and Speech Categories

	To Native Speakers (n=30)	To Non-Native Speakers (n=30)	Significance
Total Social Behaviors	71.5	57.8	$p < .10$
Total Verbal Behavior	41.1	30.5	
Total Non-Verbal Behavior	30.4	27.3	
Proportion Verbal	.50	.42	$p < .05$
Affective Tone	43.2	43.7	ns.
No. Of Utterances	91.0	71.8	$p < .10$
MLU	3.84	3.69	ns.
Proportion Repetitions and Clarifications	.23	.25	ns.
Proportion Long Utterances	.35	.32	ns.
Proportion Subordinate and Relative Clauses	.04	.04	ns.

[1] The first author is on sabbatical leave at B.U. 1980-81.